



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,140	07/20/2000	David A. Zimlich	2146-12	2828

7590 07/29/2003

Nixon & Vanderhye PC
8th Floor
1100 North Glebe Rd
Arlington, VA 22201-4714

EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
----------	--------------

2674

DATE MAILED: 07/29/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/620,140

Applicant(s)

ZIMLICH, DAVID A.

Examiner

Jennifer T Nguyen

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☒ Claim(s) 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to amendment filed on 04/17/2003.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 5-11, 15-19, and 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by ABE et al. (Pub. No. US 2002/0154101 A1).

Regarding claims 1, 9, 18, and 22 referring to Figs. 29, 34, 36, and 37, ABE teaches a driver circuit for driving signal lines (X1-X480) of a matrix type display device (10001) comprising: pulsewidth modulation circuitry (10006) for generating pulsewidth modulated video data; and driver circuitry (10007) for latching the pulsewidth modulated video data and driving said signal lines in accordance with the latched data [0254], [0255], [0275], [0276], [0286]-[0288].

Regarding claims 2 and 10, referring to Figs. 36, 36, and 37, ABE teaches the driver circuitry (10007) comprises level-shifting circuits (77) [0275], [0276].

Regarding claims 5, 11, and 19, ABE teaches the driver circuit (10007) wherein said signal lines are connected to emitter elements (R11, G12, B13) of a field emission display [0300].

Art Unit: 2674

Regarding claims 6, 15, and 21, referring to Figs. 29, 34, 36, and 37, ABE teaches the driver circuit wherein said pulsewidth modulation circuitry (10006) generates the pulsewidth modulated video data based on RGB video data supplied thereto [0255].

Regarding claims 7 and 16, ABE teaches the driver circuitry is provided on a chip other than a chip on which said pulsewidth modulation circuitry is provided (Fig. 29).

Regarding claims 8 and 17, ABE teaches the driver circuitry comprises driver circuits that are loaded in parallel with the pulsewidth modulated video data (Fig. 29).

Regarding claim 23, ABE teaches a single latch circuit is provided for each signal line (Figs. 34, 36, and 37).

4. Claims 9, 12, 18, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Matthies (U.S. Patent No. 6,498,592).

Regarding claims 9 and 18, referring to Fig. 2, Matthies teaches a driver circuit for driving signal lines of a matrix type display device comprising: pulsewidth modulation circuitry (218) for generating pulsewidth modulated video data; and driver circuitry (220) for latching the pulsewidth modulated video data and driving said signal lines in accordance with the latched data (col. 10, lines 14-40).

Regarding claims 12 and 20, Matthies teaches the matrix type display device is plasma display device (col. 4, lines 6-7).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2674

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 4, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over ABE et al. (Pub. No. US 2002/0154101 A1) in view of Embry et al. (U.S. Patent No. 6,094,689).

Regarding claims 3, 4, 13, and 14, referring to Fig. 18, ABE teaches the multi-functional display (2100) comprising the driving circuit (2101), which includes the pulsewidth modulation circuitry, receiving different image signals, supplied from an image input device (i.e., image read scanner) [0191]-[0195]. ABE differs from claims 3, 4, 13 and 14 in that he does not specifically teach a programmable logic array and ASIC for pulsewidth modulation circuitry. However, Embry teaches that it is well known in the art to utilize a programmable logic array and ASIC for providing pulsewidth modulation circuitry (col. 24, lines 11-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the programmable logic array and ASIC for pulsewidth modulation circuitry as taught by Embry in the system of ABE in order to simplify the circuitry and save space, reduce size, weight and costs.

7. Claims 24 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2674

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jennifer T. Nguyen** whose telephone number is **703-305-3225**.

The examiner can normally be reached on Mon-Fri from 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reach at **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, DC. 20231

Or faxed to: 703-872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, sixth-floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

Jennifer T. Nguyen
Patent Examiner
Art Unit 2674


XIAO WU
PRIMARY EXAMINER